SEQUENCE LISTING

<110> [redacted], Els A.J.M.
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Engelhard, Victor H.

<120> HA-1 epitopes and uses thereof

<130> 2183-6047US

<140> 10/623,176
<141> 2003-07-18

<150> 09/489,760
<151> 2000-01-21

<150> EP 97202303.0
<151> 1997-07-23

<150> PCT/NL98/00424
<151> 1998-07-23

<150> JP 2000-504165
<151> 2000-01-24

<160> 101

<170> PatentIn Ver. 2.1

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wherein X can be R or H

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wherein X can be R or H

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capable of binding HLA-A2.1

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ccttgagaaa cttaaggagt gtgtgctgca 30

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wherein X can be H or R

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1 5 10

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forward primer

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reverse primer

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primer

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polymorphic region wherein X can be H or R

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Glu Lys Leu Lys Glu Cys Val Leu Xaa Asp Asp Leu Leu Glu Ala Arg
1 5 10 15

Arg

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1 5

<210> 35
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1 5

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1 5

<210> 38
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Leu Lys Glu Cys Val Leu His Asp Asp

1 5

<210> 39
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1 5

<210> 40
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1 5

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<210> 42
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Val Leu His Asp Asp Leu Leu Glu Ala Arg
1 5 10

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1 5 10

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  1   5

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Arg Asp Asp Leu Leu Glu Ala Arg Arg
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long HA-1 peptide

<220>
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1 5 10 15

Ala Arg Arg Pro Arg Ala His Glu Cys Leu Gly Glu Ala
20 25

<210> 50
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<220>
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Gly Leu Glu Lys Leu Lys Glu Cys Val Leu His Asp Asp Leu
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1 5 10 15

Ala Arg Arg Pro Arg Ala His Glu Cys Leu Gly
20 25

<210> 52
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<220>
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<222> (1)..(19)

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His Asp Asp Leu Leu Glu Ala Arg Arg Pro Arg Ala His Glu Cys Leu
1 5 10 15

Gly Glu Ala

<210> 53
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<220>
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<222> (1)..(22)

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1 5 10 15

Ala Arg Arg Pro Arg Ala
20

<210> 54
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<220>
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Glu Lys Leu Lys Glu Cys Val Leu His Asp Asp Leu Leu
1 5 10

<210> 55
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<220>
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<220>
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<222> (1)..(25)

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1 5 10 15

Ala Arg Arg Pro Arg Ala His Glu Cys
20 25

<210> 56
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<222> (1)..(12)

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1 5 10

<210> 57
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<220>
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<220>
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<400> 57

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Ala
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<220>
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<220>
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<222> (1)..(10)

<400> 58
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Gly Leu Glu Lys Leu Lys Glu Cys Val Leu
  1               5                  10
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<210> 59
<211> 29
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<220>
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long HA-1 peptide

<220>
<221> SITE
<222> (1)..(29)

<400> 59
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Ala Arg Arg Pro Arg Ala His Glu Cys Leu Gly Glu Ala
             20                  25
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<210> 60
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<220>
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Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu
1 5 10 15

Ala Arg Arg Pro Arg Ala His Glu Cys Leu Gly
20 25

<210> 61
<211> 28
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<220>
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<220>
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<222> (1)..(28)

<400> 61
Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu
1 5 10 15

Ala Arg Arg Pro Arg Ala His Glu Cys Leu Gly Glu
20 25

<210> 62
<211> 14
<212> PRT
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<220>
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Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu
1 5 10

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<211> 22
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<222> (1)..(22)

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Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu
1 5 10 15

Ala Arg Arg Pro Arg Ala
20

<210> 64
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<220>
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1 5 10

<210> 65
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<220>
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<220>
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Cys Val Leu Arg Asp Asp Leu Leu Glu Ala Arg Arg

1 5 10

<210> 66
<211> 26
<212> PRT
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<220>
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<222> (1)..(26)

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Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu

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  1               5                  10                  15

Ala Arg Arg Pro Arg Ala His Glu Cys Leu
             20                  25


<210> 67
<211> 25
<212> PRT
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<220>
<223> Description of Artificial Sequence: HA-1 peptide

<220>
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<222> (1)..(25)

<400> 67
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  1               5                  10                  15

Ala Arg Arg Pro Arg Ala His Glu Cys
             20                  25


<210> 68
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<220>
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<220>
<221> SITE
<222> (1)..(12)

<400> 68
Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp
  1               5                  10


<210> 69
<211> 17
<212> PRT
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<220>
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<220>
<221> SITE
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<400> 69
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Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu
1 5 10 15

Ala

<210> 70
<211> 19
<212> PRT
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<220>
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<220>
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<222> (1)..(19)

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1 5 10 15

Ala Arg Arg

<210> 71
<211> 21
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<220>
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<220>
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<222> (1)..(21)

<400> 71
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1 5 10 15

Ala Arg Arg Pro Arg
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<210> 72
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
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<220>

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<400> 72
Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu
1 5 10 15

Ala Arg Arg Pro Arg Ala His
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<210> 73
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: KIAA0223
sequence derived from a presumed HA-1 negative
individual

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<221> misc_feature
<222> (1)..(38)

<400> 73
gagtgtgtgt tgcgtgacga cctccttgag gcccgccg 38

<210> 74
<211> 13
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sequence derived from a presumed HA-1 negative
individual

<220>
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<400> 74
Glu Cys Val Leu Arg Asp Asp Leu Leu Glu Ala Arg Arg
1 5 10

<210> 75
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: KIAA0223
sequence derived from a presumed HA-1 homozygous
positive individual

<220>
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<222> (1)..(38)

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<210> 76
<211> 13
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<220>
<223> Description of Artificial Sequence: KIAA0223
sequence derived from a presumed HA-1 homozygous
positive individual

<220>
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<400> 76
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1 5 10

<210> 77
<211> 9
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<220>
<223> Description of Artificial Sequence: HA-1 peptide

<220>
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Tyr Ile Gly Glu Val Leu Val Ser Val
1 5

<210> 78
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: a 29 amino acid long HA-1A peptide

<400> 78

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu His Asp Asp Leu Leu Glu
1 5 10 15

Ala Arg Arg Pro Arg Ala His Glu Cys Leu Gly Glu Ala
20 25

<210> 79
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1A peptide

<400> 79

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu His Asp Asp Leu
1 5 10

<210> 80
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1A peptide

<400> 80

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1 5 10 15

Ala Arg Arg Pro Arg Ala His Glu Cys Leu Gly
20 25

<210> 81
<211> 19
<212> PRT
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<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1A peptide

<400> 81

His Asp Asp Leu Leu Glu Ala Arg Arg Pro Arg Ala His Glu Cys Leu
1 5 10 15

Gly Glu Ala

<210> 82
<211> 22
<212> PRT
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<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1A peptide

<400> 82

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu His Asp Asp Leu Leu Glu
1 5 10 15

Ala Arg Arg Pro Arg Ala
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<210> 83
<211> 13
<212> PRT
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<400> 83

Glu Lys Leu Lys Glu Cys Val Leu His Asp Asp Leu Leu
1 5 10

<210> 84
<211> 25
<212> PRT
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<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1A peptide

<400> 84

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu His Asp Asp Leu Leu Glu
1 5 10 15

Ala Arg Arg Pro Arg Ala His Glu Cys
20 25

<210> 85
<211> 12
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1A peptide

<400> 85

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu His Asp
1 5 10

<210> 86
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1A peptide

<400> 86

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu His Asp Asp Leu Leu Glu
1 5 10 15

Ala

<210> 87
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1A peptide

<400> 87
Gly Leu Glu Lys Leu Lys Glu Cys Val Leu
1 5 10

<210> 88
<211> 29
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: a 29 amino acid long HA-1R peptide

<400> 88

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu
1 5 10 15

Ala Arg Arg Pro Arg Ala His Glu Cys Leu Gly Glu Ala
20 25

<210> 89
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1R peptide

<400> 89

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu
1 5 10 15

Ala Arg Arg Pro Arg Ala His Glu Cys Leu Gly
20 25

<210> 90
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1R peptide

<400> 90

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu
1 5 10 15

Ala Arg Arg Pro Arg Ala His Glu Cys Leu Gly Glu
20 25

<210> 91
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1R peptide

<400> 91

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu
1 5 10

<210> 92
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1R peptide

<400> 92

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu
1 5 10 15

Ala Arg Arg Pro Arg Ala
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<210> 93
<211> 13
<212> PRT
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<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1R peptide

<400> 93

Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu
1 5 10

<210> 94
<211> 12
<212> PRT
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<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1R peptide

<400> 94

Cys Val Leu Arg Asp Asp Leu Leu Glu Ala Arg Arg
1 5 10

<210> 95
<211> 26
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1R peptide

<400> 95

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu
1 5 10 15

Ala Arg Arg Pro Arg Ala His Glu Cys Leu
20 25

<210> 96
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1R peptide

<400> 96

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu
1 5 10 15

Ala Arg Arg Pro Arg Ala His Glu Cys
20 25

<210> 97
<211> 12
<212> PRT
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<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1R peptide

<400> 97

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp
1 5 10

<210> 98
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1R peptide

<400> 98

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu
1 5 10 15

Ala

<210> 99
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1R peptide

<400> 99

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu
1 5 10 15

Ala Arg Arg

<210> 100
<211> 21
<212> PRT
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<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1R peptide

<400> 100

Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu
1 5 10 15

Ala Arg Arg Pro Arg
20

<210> 101
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: in vitro proteasomal cleavage of a 29 amino acid long HA-1R peptide

<400> 101

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Gly Leu Glu Lys Leu Lys Glu Cys Val Leu Arg Asp Asp Leu Leu Glu
1               5                  10                  15

Ala Arg Arg Pro Arg Ala His
            20
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